ABSTRACT OF THE DISCLOSURE

A physical address extension feature maps multiple virtual memory spaces to an extended physical memory. Performance is enhanced by mapping chunks of both

5   common and separate physical memory to each of the virtual memory spaces to provide efficient communication of parameters to and results from well-defined or well-contained software modules assigned to the chunks of separate physical memory. For example, the common physical memory stores stack allocation, per-processor data for communication between the virtual address spaces, BIOS, and device drivers. A first virtual memory

10 space is directly mapped to a bottom region of physical memory containing buffer cache and page tables. In a file server, for example, one of the virtual memory spaces contains an inode cache, another contains a domain name lookup cache, and still another contains a block map for snapshot copies.

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